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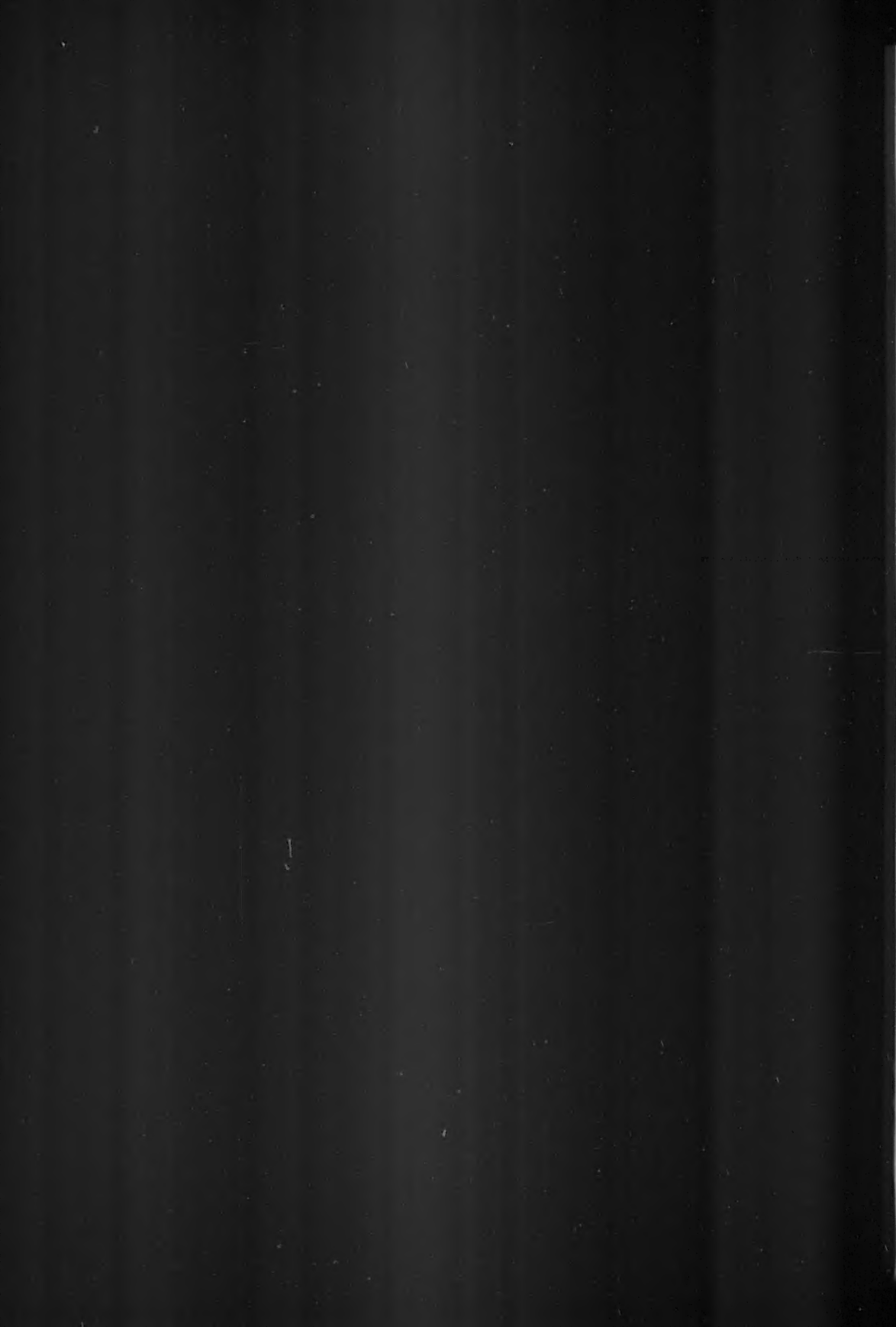
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AN EXPERIMENT WITH A RUFOUS HUMMINGBIRD

(WITH TWO PHOTOS)

By A. DAWES DU BOIS

SOME YEARS ago, while making a nest-study of a Rufous Hummingbird (*Selasphorus rufus*), I took occasion to play a trick on my diminutive friend, in order to watch her reactions to a new experience. It was in a forest, in the Rocky Mountain region of Montana. The nest was conveniently situated for observation and I had been stationed near it for many days, sometimes for long periods, so that the bird had ceased to show any agitation at my presence. On July 22, while the parent bird was away, I covered the nest with a small thin sheet of cotton batting which was very light in weight but rather tough in texture because of a slight sizing on one side. It completely covered the top of the nest, hiding the 5-day-old nestling from view.

When the bird returned she alighted on top of the cotton, hesitated a little, and began tucking the edges of the cotton into the rim of the nest. She then stretched herself lengthwise, humped up her back, and kicked vigorously backward, in an evident effort to tear a hole through the cotton; but her small weak feet were of no avail in this endeavor. She repeated the tucking process and sat for a few minutes on the nest, with the cotton between her and the young, tucking it in only occasionally. Then she left the nest. While she was away I doubled back one end of the cotton, uncovering perhaps a third of the nest opening. She had left at 5:30 and at 6 o'clock she returned to the edge of the nest, fed the young through the open space, and sat on the nest, pushing the cotton down and forward as much as possible out of the way and again trying to tuck it into the nest wall, both inside the rim and outside among the lichens.

When she voluntarily left again I removed the cotton, and substituted a circular piece of white mosquito netting just large enough to cover the top of the nest. After some time the bird returned; she hovered with vibrating wings above the nest, going back and forth to examine the situation, and then alighted quickly on the edge of the nest and fed the nestling, briefly, by regurgitation, through the meshes of the netting. After the feeding she sat on top of the netting but did not try to tuck it in. It did not project much beyond her body. She may have thought this a rather unsatisfactory method of brooding; at any rate she soon left the nest, going to a dead twig in a nearby birch where she sat

quietly. At a little before 7 o'clock she was still there, preening and scratching herself and leaving the problem of the netting to me, so I removed the netting and left for the day.

It seemed remarkable that the bird had made no effort to remove these light obstacles from the top of her nest, and, in order to determine whether she might change her tactics, I repeated the cotton experiment on July 24. The cotton completely covered the nest cavity. Without alighting on the nest, the



Fig. 46. RUFIOUS HUMMINGBIRD ENDEAVORING TO TUCK THE COTTON INTO THE NEST RIM.



Fig. 47. RUFIOUS HUMMINGBIRD DROPPING THE SHEET OF COTTON AFTER PULLING IT FROM THE NEST.

hummer flew over the cotton and tried to pull it off. She lifted one end of it but it fell back. She flew at it again and this time succeeded. She lifted and pulled it from the nest and let it fall on a bough nearby. After thus removing the obstacle she went away, presumably for food or water, for she returned in

four minutes to feed and brood the nestling. While she sat on the nest I saw her, at one time, peering over its edge at the piece of cotton below.

I was not quite certain whether she had lifted the cotton with her bill or her feet; so the cotton was replaced for another trial. She repeated her method of attack. She hovered over the cotton, trying to lift it with her bill, but she could lift only one end. It stuck to the nest and the force which she was able to exert at the tip of her long bill was not sufficient to dislodge it. Failing thus to remove it, she alighted on the edge of the nest, where she stood poking and pushing at the cotton, protruding her tongue into it, and trying to roll its edges into the nest. Next, she sat in the middle of it and tried to tuck it in, around her body, lifting and pulling the edges up and over toward her. She did not try to tuck it into the outside of the nest wall as in the first experiment, but she finally went through the kicking performance previously described and, after a short period of this work, left the nest. She soon returned, however, to repeat the same methods and to leave again. Having returned for the third time she perched on the edge of the nest and tried, apparently, to insert her bill through the cotton covering; meanwhile the nestling's head was visible to me through a small space, on my side, where the parent bird had previously lifted the cotton. She failed to pierce the cotton and went away and I removed the covering. I do not know where she was, perhaps on a twig nearby, but she did not return while I was there, though I waited for some time. She was on the nest, however, when I visited her again in the evening.

After two more days, with some compunction, I once more subjected the hummingbird to the same ordeal. It seemed probable, in the light of previous experience, that a short time would suffice to secure a better photograph. But the hummingbird made no effort whatever to remove the cotton or to tuck it in. For an hour and a half or more she stood on top of it, with untiring patience, doing nothing more than to shade the young nestling when the sun shone on the nest. This she continued to do until I finally relieved her of the nuisance.

Springfield, Illinois, February 16, 1923.

MORE NOTES FROM SASKATCHEWAN

(WITH TWO PHOTOS)

By H. H. MITCHELL

THE following observations may be of interest as a continuation of some few notes, together with a brief description of the province, which appeared in the *Condor*, xxi, 1919, pp. 222-225. Outside of the records noted from the Big River district is one of importance that came to hand later. This record is placed at the end of the list below. During the season of 1921, from May 12 to July 22, I again visited the Cypress Hills, but this time confined my collecting to the northern parts where the country is well wooded, largely with coniferous trees, in sharp contrast to the bare southern slopes some thirty miles to the south.

Large hawks were apparently scarce; two pairs of Red-tailed, a few Swainson, and still fewer Ferruginous Rough-legged hawks were seen. Two pairs of Richardson Merlins were noted; a male and female were taken together with a set of five eggs slightly incubated, June 10, in an old crow's nest fifteen feet up in a jackpine. Nighthawks were rare; only one pair was seen during June and July, doubtless *sennetti*. Crossbills were seen occasionally in small bands, and more rarely in pairs; White-winged Crossbills were taken July 6, and American Crossbills, July 8. White-crowned Sparrows were common breeding birds, much more numerous than on the south slopes of the hills, as noted in 1919. Wright and Least flycatchers were about equally present, several of each being noted. Pink-sided Juncos were quite common, and several nests were found: earliest date, May 14, the nest containing four fresh eggs. In the south hills I have rarely seen this junco.

Big River, where I collected from May 17 to June 23, 1922, proved to be



Fig. 48. A SMALL 'MUSKEG' NEAR BIG RIVER, SASKATCHEWAN.

a most interesting district. It lies about 300 miles north-northeast of the Cypress Hills, north of the Saskatchewan River in the forest belt. I was camped on the east side of Crooked Lake which is about 28 miles long though averaging only a mile wide, with its trend lying in a northwestern direction. Much of the country has been burned over, such areas being strewn with fallen trees and a growth of small scrub. The timber left standing on other areas comprises jackpine, spruce, tamarack, birch, poplar, etc. This lake appeared to be a favored migration route. Warblers were especially abundant; nowhere else in Saskatchewan have I seen such numbers in any migration season. May 20 saw the height of this wave; by May 26 the Canadian, Black-poll, Cape May, Magnolia, and most of the Black-throated Green and Tennes-

see warblers had moved northward; several Mourning Warblers remained here to breed.

To hear the summer songs of many species that I had previously known only as silent migrants in the south was a delight and, in some cases, a surprise; for example, the Ruby-crowned Kinglet and Hermit Thrush. The Lincoln Sparrow's song made me think of the Winter Wren, a bird I was anxiously looking for, till I recognized its source. The Blue-headed Vireo's song, while typical of that family, 'had me guessing' for a while, as also did that of the Purple Finch.



Fig. 49. NESTING SITE OF SOLITARY SANDPIPER; OLD NEST OF ROBIN
JUST UNDER THE WHITE CROSS.

A small muskeg (see fig. 48) about two miles from camp, proved to be an interesting nesting place. Eight pairs of Rusty Blackbirds were counted, and young were found just hatching on May 29. Solitary Sandpipers, Western Wood Pewees, Least and Olive-sided flycatchers, Purple Finches, Ruby-crowned Kinglets, Lincoln Sparrows, Song Sparrows, Chipping Sparrows, Slate-colored Juncos, and Hermit Thrushes were all noted nesting near this 'shaking bog' and pine-tree surrounded pond. My notes on this district are

very numerous. A few of the more important records based on specimens taken are as follows.

Larus philadelphia. Bonaparte Gull. A female taken May 22 had one egg in the ovary which she was about ready to lay. Several of the birds were seen passing up and down the lake up to the time of my leaving, so they probably were nesting not far off.

Helodromas solitarius. Solitary Sandpiper. Found breeding on the edge of the muskeg in an old nest of the Robin, 10 feet up in a 'moss'-covered spruce, June 3. The nest was carefully examined and found to contain two eggs. Four days later, hoping to get a full set, I found it had been forsaken, no more eggs had been laid, and the birds were evidently resuming breeding activities on the opposite side of the pond. The birds were then taken and proved to be typical *solitarius*.

Chordeiles virginianus. Nighthawk. Abundant, breeding in burnt areas. This eastern form is much more numerous here than *sennetti* is on the prairies to the southward.

Zonotrichia albicollis. White-throated Sparrow. This was the commonest breeding bird of the district. Eggs just hatching were found June 14.

Spizella passerina. Chipping Sparrow. Common, breeding throughout the district. Previous notes on this species in other localities had indicated it to be uncommon.

Junco hyemalis. Slate-colored Junco. Common, nesting mostly in burnt-over areas.

Piranga ludoviciana. Western Tanager. Two males were taken May 23. These were the only ones seen and, as far as I can find out, are first records for the province based on specimens.

Dendroica tigrina. Cape May Warbler. Fairly common in migration. None noted after May 26. Three taken May 19, 21, and 23, were the first I had seen in the province.

Nannus hiemalis. Winter Wren. Only one pair was seen. The male, taken June 10, constitutes the first specimen recorded for the province, so far as I know. Professor Dexter had previously reported it common about Big River, but, although House Wrens were common, I found the Winter Wren rare, at least during that particular season.

Otocoris alpestris leucolaema. Desert Horned Lark. A breeding male and female taken in a clearing near Big River village, May 22, are apparently referable to this form. They differ somewhat from birds taken to the southward on the prairie, which I have called Desert Horned Larks; possibly these latter will eventually become the Saskatchewan Horned Lark, *enthymia* of Oberholser.

Stercorarius pomarinus. Pomarine Jaeger. A female taken four miles from Yellow Grass, November 9, 1922, by Mrs. Chester Larsen "appeared near the house at a slough and was mistaken for a hawk". This is, no doubt, the first specimen recorded for Saskatchewan.

Regina, Saskatchewan, February 10, 1923.

FORM OF EGG AND EXTENT OF MIGRATION

By CHARLES K. AVERILL

THE BLACKPOLL Warbler breeds far north in the Canadian and Hudsonian zones, and spends the winter in South America. The breeding range of the Yellow Warbler reaches north to the tree limit and extends across the continent; it winters from Yucatan to Peru. The Bay-breasted and Blackburnian warblers do not breed south of the Canadian Zone, and in winter reach South America. Other warblers of the same genus, *Dendroica*, winter within the limits of the United States, to some extent, as the Pine, Myrtle, Yellow Palm; or, as the Prairie and Black-throated Blue, do not go farther south than the West Indies. We can hardly doubt that there is a correlation between vigor and extent of migration. It would be of interest if some indication of relative vigor could be found. Fortunately, Coues' Key to North American Birds indicates that the vigor of a bird is expressed in the form of the egg. We read in the edition of 1884 (p. 224):

The short diameter corresponding to the calibre of the oviduct is less variable than the long axis; for when the quantity of food—yolk and white, upon which the difference in bulk depends, varies with the vigor of the individual, the scantiness or redundancy is expressed by shortening or lengthening of the whole mass.

From this it follows that the ratio of the long axis to the short axis is an indication of relative vigor of the female at the time of laying, which vigor we may with reason assume would be transmitted to the chick. I have extended this, tentatively, to the species, and placed the ratio of long diameter to short diameter opposite each species in tables of the warblers above-mentioned. Thus, the egg of the Blackpoll Warbler according to Ridgway measures $.72 \times .53$, which gives a ratio of 1.36; the egg of the Yellow Warbler, on the same authority, is $.66 \times .48$, ratio 1.36; Bay-breasted Warbler $.71 \times .51$, ratio 1.39; Blackburnian Warbler $.66 \times .49$, ratio 1.35. Average ratio of these long-distance travelers, 1.37.

In the same way and on the same authority the ratio for the Pine Warbler is 1.30, Myrtle Warbler 1.32, Prairie Warbler 1.34, Yellow Palm Warbler 1.29, Black-throated Blue Warbler 1.37. Average for these short-distance migrants 1.32.

If we use Chapman's figures for the same two groups of warblers, we have for the first group the average ratio of 1.36, for the second 1.31, a closely similar result.

From a similar table¹ of five western species of the same genus, *Dendroica*, whose migrations are short, none reaching South America in winter, I find the ratios given by Ridgway to be as follows: Audubon Warbler 1.30, Black-throated Gray 1.22, Townsend 1.22, Hermit 1.20, Golden-cheeked 1.36; average 1.26. The average given by Chapman for the same warblers is 1.32; either figure is below the average for the long-distance group (1.36).

It is useless to compare the eggs of species whose migrations do not differ greatly. In the following genera I have compared only the most northerly with the most southerly breeding bird, the northerly one in each case being the long-distance traveler. *Oporornis*: Connecticut Warbler 1.37, Kentucky

¹Extensive tables accompanied this article; but in the interests of economy in cost of publication, and with the author's permission, they are omitted.—EDITOR.

Warbler 1.28. *Seiurus*: Water-thrush 1.30, Louisiana Water-thrush 1.24. *Vireosylva*: Red-eyed Vireo 1.49, Warbling Vireo 1.37. *Lanivireo*: Solitary Vireo 1.44, Yellow-throated 1.35, Black-whiskered 1.34. In these tables I have combined the ratios from both Chapman's and Ridgway's figures.

According to Ridgway, the ratios for the following members of the genus *Icterus* arranged in order of their northerly distribution are as follows: Baltimore Oriole 1.48, Bullock Oriole 1.49 (these two are closely related species), Orchard 1.38, Scott 1.45, Audubon 1.37, Arizona Hooded 1.43.

In the genus *Vermivora*, the law cannot be made out from the figures available, either because exceptions are to be expected or because the eggs of the rarer species had not been taken often enough to obtain a fair average.

The Northern Shrike compared with the Loggerhead of the southern states shows about the same difference in form of egg as do the birds in the preceding tables.

It follows that the eggs of birds breeding in high latitudes will differ in shape from those of similar birds of southerly districts. Let us compare such "sparrows" of eastern North America as breed far north with some of the southerly ones. Savannah, White-crowned, White-throated, Lincoln, and Fox sparrows show a general average, according to Ridgway and Chapman, of 1.38. The southerly sparrows are the Grasshopper, Henslow, Sharp-tailed, Seaside, Pine Woods, and Bachman; general average 1.27. All these winter within the limits of the United States. For such fringilline birds as are southerly and pass into the tropics in winter, as the Blue Grosbeak, Indigo Bunting, Painted Bunting, Dickcissel, the average ratio is greater than that of the southerly sparrows, being about halfway between the northern and southern groups.

Passing from passerine birds we find a good opportunity in the herons, since the Great Blue Heron which is migratory has a closely related species, the Ward Heron, which is resident in the Gulf region. The ratio for the migrant bird is 1.66, for the southern bird 1.43. This ratio for the Great Blue Heron is much larger than that for any of our North American herons, thus corresponding with its much longer migration.

If we compare the eggs of the Dowitcher, Wilson Snipe, and Woodcock, three snipe whose migrations differ greatly in length, we find the ratios in the order named to be 1.46, 1.42, 1.32, using Ridgway's figures. From this comparison and from the tables of sparrows, we see that the law is general and that it is not necessary that the eggs compared should be of birds of the same genus. In the same way we find the eggs of the Golden, Black-bellied, and Semipalmated plovers to be more elongated than those of the Wilson, Piping, and Killdeer plovers.

It is not advisable to compare eggs of birds greatly different in size, as there is a law, also unnoted so far as I know, that the larger bird in the same genus or family, lays a more elongated egg than does the smaller. This becomes very evident when the birds differ greatly in size. Thus in the auks the ratio for the Great Auk is 1.60, Razor-billed Auk 1.63, while at the other end in point of size are the Black Guillemot (1.45) and the Dovekie (1.47). Among the grebes the Western Grebe and Holboell Grebe average 1.55 and 1.62, while the little Eared Grebe and the Pied-billed Grebe each average 1.44. Among Anatidae the ratio for the Trumpeter Swan is 1.54, Canada Goose 1.57,

Blue-winged Teal 1.37, Green-winged Teal 1.36, and so on through the herons, rails, tubinarines, vultures, grouse, owls, goatsuckers, ravens and crows, and thrushes, with equally well marked differences. The figures for these tables are taken from Ridgway.

I can do no more than record this law, no explanation of it occurring at the present time. To state that the caliber of the oviduct does not increase in proportion as the size of the bird increases, would only be putting it in another way. This law prevents us from comparing the eggs of some birds whose migrations differ in length, for it is the smaller bird generally, in the very longest journeys, that makes the longer migration (see Forest and Stream, October, 1922, p. 445); hence confusion in the results.

Returning to our first principle, the correlation of form of egg with extent of migration. It is obvious that it cannot be made out in such birds as swifts, swallows, terns, gulls, and others whose habits have fully developed their powers of flight independently of migration. That the ratio of length to short diameter indicates vigor in action appears to explain why, among passerine birds, the swallows' eggs are more elongated than others, why the swifts' and hummingbirds' eggs are notably elongated, for these are birds of unsurpassed volatile ability. The eggs of the diurnal birds of prey are more elongated than those of the softly flying owls, for the same reason. Among water-fowl, the expert divers that pursue fish under water, auks, loons, grebes and others, are distinguished from the ducks, geese, and swans by the elongate form of egg.

The eggs of owls are noted for their approach to the spherical form. It is in accordance with the two principles I have brought out that the closest approach to the sphere is found in the eggs of owls of smallest size and southern distribution, namely, Elf Owl and Pigmy Owl.

Bridgeport, Connecticut, July 20, 1923.

SOME GEOGRAPHICAL NOTES ON THE CACTUS WREN

By GRIFFING BANCROFT

THE STATUS of the Cactus Wren of the San Diegan district, as indicated in the literature, has long been unsatisfactory. Authorities disagree so widely that they offer us no less than four distinct definitions. Bailey (Handbook of Birds of the Western United States, 1921 ed., p. 548) refers the Cactus Wren of this district to the form *Heleodytes brunnicapillus bryanti*. The most generally accepted name is *H. b. couesi*; to quote authorities here would be to name the majority of those who have written on the subject.

Two expedients have been adopted to account for the manifest difference between some coast birds and the apparently homogeneous form that spreads over six American and four Mexican states. From specimens collected it is argued that *bryanti* and *couesi* nest in the same localities near San Diego, and that *bryanti* ranges sparingly through the district. On the other hand, there has been a growing sentiment, led by Dr. J. Grinnell, to disavow as *bryanti*

all specimens collected in California. This strictly correct interpretation still involves the belief that the peculiarities of some of the southwestern California specimens are the result of "intergradation with *bryanti* somewhere below the International Line," and, because of that same belief, our San Diegan form has been refused the status of a distinct subspecies.

For the past four years I have made a special study of the distribution of the Cactus Wren south of the Mexican line. On the desert side, as is to be expected, it extends southward toward the Gulf of California in typical representations of pure *couesi*. On the Pacific Coast slope, however, I have been able to find but one area on which there are Cactus Wrens at all between San Telmo and the American line. This is a Lower Sonoran strip of irregular outline. Roughly speaking, twenty miles east of Tiajuana is its center, and it will run about five miles in every direction, and about the same distance below the line. Birds taken from this area are identical with the birds of southwestern California. Mr. Lawrence M. Huey, of the San Diego Natural History Society, recently took some specimens there with me and made a careful comparison especially for this article.

The Lower Sonoran zone of the northern part of the San Diegan District is perfectly isolated. To the east, it is true that a theoretical contact with the desert takes place in the narrow San Gorgonio Pass. The San Bernardino, San Jacinto, and Cuyamaca ranges account for the rest of the border. The north and west are bounded by the Upper Sonoran country around Santa Barbara and by the Pacific Ocean. To the south for a distance of 100 miles, plateaus of Upper Sonoran character, with elevations of from a thousand feet upward, run virtually to the coast, where they break to sea level in wild declivities and precipices.

There are three roads from California to Ensenada. One practically follows the coast and for a good part of its length runs through cholla cactus associations. But these associations are confined to a narrow strip very near the ocean. About twenty miles inland is a paralleling road; here, too, some cholla is encountered, but in small and isolated patches. The third road, running south from Campo, passes from valley to valley through the mountains. I have traveled them all many times, usually in the company of trained observers and always on the lookout for Cactus Wrens. As far as negative evidence may be considered proof, it is safe to say that, outside of the area mentioned, there are no Cactus Wrens in this part of Mexico north of Ensenada.

Ensenada is in a valley of some hundred square miles, surrounded by large hills. Here, too, is cholla in considerable abundance. The only road to the south over which an automobile can pass winds in and out among the hills and drops every now and then almost to sea level to cross the river beds. So it transverses all the life zones of the region. In seventy miles San Antonio del Mar is reached and we come again abruptly to a region where the plateaus begin to extend inland from the sea. We have never found Cactus Wrens here. I have talked with many residents who know every foot of that country, and who know the conspicuous nests of the birds well, and they all agree that they have never noticed them north of the San Telmo region.

When we do come to the wrens at San Telmo we find pure *bryanti*. Here three eggs is the normal set; I have never found more, and incubated two's

are not uncommon. We have nests heavily covered with small twigs in very marked contrast to the plain grass nests of *couesi*. As far as my small series will show there is no constant difference between the eggs of the two species; nor noticeably so in the size or shape of the nests, though those of *bryanti* will average larger. A typical nest, well dried, weighed $6\frac{1}{4}$ ounces and measured $11 \times 8 \times 7$ inches. The nesting cavity measured $7\frac{1}{2}$ inches from mouth to back. Very short grass is used, from necessity I presume. This is bound together with plant down and protected with a thick layer of small twigs and sometimes a bit of yucca fiber. On the inside the nesting cavity is lined with feathers all the way round and for the full length. On the bottom these reach a thickness of half an inch. Any small feathers the bird can find are used; her own predominate.

The range of *bryanti*, as far as we were able to follow it, might be given as from latitude 31° southward. Mr. Huey was with me in that country in April of this year, and we took specimens at San Quentin, El Rosario, and as far south as Santa Catarina Landing, latitude $29\frac{1}{2}^\circ$. He made a careful comparison of the skins and is my authority for saying that *bryanti* in pure form, and without a trace of intergradation with *affinis*, extends at least that far south.

From San Telmo *bryanti* ranges east until cut off by the foothills of San Pedro Martir Mountains. It follows the western edge of that range to the end, near San Quentin, and then spreads as near the Gulf of California as it finds conditions suitable. As there are no longer any mountains and the desert scarcely reaches an altitude of 2000 feet, the range of the bird undoubtedly extends to the gulf.

When the definite southern range of *bryanti* has been worked out, as well as the northern range of *affinis*, we will still have one point that will have to be cleared up before we can exactly describe the ranges of these birds. South from Mexicali, I have followed *couesi* down the strip that lies between the Hardy River and the Cocopah Mountains, as far as Mayore. Below Mayore we come to the Laguna Salada which I have crossed to La Bampa, and almost to the Gulf. Here we have a vast overflow country, practically devoid of vegetation, smooth as a floor, and extending far below La Bampa. San Pedro Martir Mountain approaches very close to the Gulf in the country below the mouth of the Hardy River. Somewhere along this stretch the range of *couesi* must be blocked by natural conditions, and that point may be Mayore.

The literature on the Cactus Wren is full of allusions to supposed points of intergradation. Yet each one of these points disappears when the effort is made to find the exact line. There is still a possibility of intergradation between *affinis* and *bryanti*, but it should not be assumed until it is proved. It is far more logical to expect to find a definite break, a strip not inhabited at all by *Heleodytes*.

Bryanti does not cross the California line. There is every evidence that it does not approach it closer than 150 miles. We have four distinct geographical areas inhabited by four distinct races of Cactus Wren, and it does seem as though we should have four sharply defined subspecies. Such a solution is definitely and substantially based on facts. The histories of all the other theories show that opinions and guesswork play too large a part. Accept iso-

lation of the district and the hypothesis of intergradation disappears. It is easy to believe that the fluctuations in type are due to the subspecies being still in a formative process. But it is not possible to imagine that *couesi* and *bryanti* could maintain their separate status in the same area.

San Diego, California, June 28, 1923.

DESCRIPTION OF A NEW GROUSE FROM SOUTHERN CALIFORNIA

By DONALD R. DICKEY and A. J. VAN ROSSEM

GROUSE have long been known to occur on Mount Pinos¹, in Kern and Ventura counties, California, but only recently have specimens become available for study. Comparison of the series secured during the last few years indicates a geographic variation of *Dendragapus obscurus* in the southwestern part of its range that is deemed worthy of subspecific recognition. The form may be known as follows:

Dendragapus obscurus howardi, new subspecies

Mount Pinos Grouse

Type.—Male adult; no. K 238, collection of Donald R. Dickey; Mount Pinos, Kern County, California; altitude 7500 feet; May 28, 1922; collected by A. J. van Rossem; original no. 6931.

Diagnosis.—Nearest to *Dendragapus obscurus sierrae*, but differing from that form in paler dorsal coloration, and in coarser and more conspicuous vermiculation and barring. Underparts darker, a brownish suffusion replacing the clearer gray of *sierrae*. The white median shafting and terminal pattern of the feathers of flanks and sides reduced in area and entirely lacking on anterior part of body, whereas in *sierrae* traces of this pattern extend forward to the shoulders. Wing slightly longer; tail decidedly longer and much more graduated, with terminal band averaging wider. Culmen, tarsus, and middle toe averaging slightly longer and decidedly heavier. Comparison has been based chiefly upon males, and only adult birds have been used in which the narrow-feathered and excessively graduated tail of the first winter has been fully replaced by the broad feathers of maturity. So far as observed, differentiation in the characters of the female parallels that of the male.

MEASUREMENTS

MALES

	Wing			Tail			Tail * graduation			Culmen from base			Tarsus			Middle toe without claw		
	Min.	Max.	Av.	Min.	Max.	Av.	Min.	Max.	Av.	Min.	Max.	Av.	Min.	Max.	Av.	Min.	Max.	Av.
<i>D. o. howardi</i>	232.	246.	239.	176.	210.	189.	15.0	43.3	32.7	27.0	31.0	29.0	41.0	47.3	43.8	42.0	47.5	44.0
<i>D. o. sierrae</i>	221.	243.	234.	158.	185.	170.	5.5	35.0	21.3	26.8	31.0	29.0	40.5	45.5	43.0	40.5	46.3	43.3
	FEMALES																	
<i>D. o. howardi</i>	209.	222.	216.	147.	159.	153.	15.5	26.5	20.6	27.0	30.8	28.8	38.0	41.3	39.9	37.3	41.4	39.4
<i>D. o. sierrae</i>	202.	225.	213.	125.	152.	137.	4.0	20.5	13.9	25.5	28.7	27.1	37.0	40.5	39.1	37.4	41.5	39.2

* Measurement from tip of shortest lateral rectrix to projected transverse line through tip of longest rectrix, with feathers of tail in normal 'closed' relation.

¹Pac. Coast Avif., no. 11, 1915, p. 60; Bureau of Biological Survey, MS; etc.

Range.—The Silver Fir association from Mount Pinos, California, east through the Tehachapi Range, and north in the main Sierra Nevada to about the 31st parallel of latitude.

Specimens examined.—Specimens of *D. o. howardi* have been examined from the following California localities: Mount Pinos, 8; Tehachapi Peak, 1; Olancha Peak, 1; Renshaw Meadow, Tulare County, 1; Sequoia National Park, 1; Mount Whitney, 1; Fresno County, near Tulare County line, 5; Kearsarge Pass, 3; Bishop Creek, Inyo County, 1. Total 22.

Specimens of *D. o. sierrae* have been examined from the following localities: Oregon: Warner Mountains, 1; Fort Klamath, 6. California: Fandango Mountain, Modoc County, 2; Warner Mountains, Modoc County, 5; Sugar Hill, Modoc County, 1; Mount Shasta, 1; 8 miles south of Bald Mountain, Shasta County, 1; Baird Station, Shasta County, 1; 30 miles northeast of Weaver-ville, Trinity County, 1; Fort Crook, 2; Mount Lassen, 1; Susanville, 1; Lake City, 1; Sierra City, 2; Emigrant Gap, Placer County, 1; Blue Canyon, Placer County, 1; Bryan Cabin, Eldorado County, 1; Phillips, Eldorado County, 1; 1 mile west of Round Lake, Eldorado County, 4; Round Meadow, Eldorado County, 3; Blood's, Calaveras County, 1; Deer Creek, Madera County, 1. Total 39.

Remarks.—Throughout the range of *Dendragapus obscurus* in California there is a gradual geographic variation which particularly affects the length and graduation of the tail. These characters increase steadily from north to south. Birds from Mount Pinos express in ultra-typical form this lengthening of the tail itself, as well as the greater ratio between the length of the lateral and median rectrices, a truly striking character which the writers have termed 'graduation' in the above description. In this same region, the variation in color and pattern from typical *sierrae* is also most pronounced. Here, too, even the field characteristics of the species seem to have undergone modification, for the birds of Mount Pinos display a sagacity in eluding capture that is utterly beyond anything observed by the authors in birds from the central or northern Sierra Nevada. One 'hooting' site, in a Jeffrey Pine, was carefully watched on several different occasions during a period of two years, before the bird was located and secured. By contrast, the species in like season in the Sierras is often lacking in suspicion to the point of actual stupidity.

The bird is named in recognition of the many years of enthusiastic ornithological work done by Mr. O. W. Howard in southern California and Arizona, and more particularly in appreciation of the very definite assistance which his knowledge of the Mount Pinos region enabled him to render us.

Acknowledgments.—Material has been assembled from the U. S. National Museum, U. S. Bureau of Biological Survey, University of California Museum of Vertebrate Zoology, Museum of Comparative Zoology of Harvard University, and from the collections of Mr. L. M. Huey, Mr. O. W. Howard, and Major Allan Brooks. Our hearty thanks are due Dr. C. W. Richmond, Dr. H. C. Oberholser, Dr. J. Grinnell, Mr. H. S. Swarth, and Mr. Outram Bangs, of the above institutions, for their courteous coöperation in placing the material under their charge at our disposal for purposes of comparison. The senior author has also to thank the scientific staff of the American Museum of Natural History for the privilege of examining the type of *D. o. sierrae*.

Pasadena, California, July 2, 1923.

LIST OF SEA BIRDS COLLECTED BY MR. CHAS. FAGAN

By ALEXANDER WETMORE

SPECIMENS of sea birds received by the Biological Survey during the past year from Mr. Chas. Fagan, chief wireless operator on the S. S. "Santa Elisa," W. R. Grace and Co., have included a number of rare species, some of which have not been represented previously in the collections of the U. S. National Museum. During voyages made between New York and Valparaiso via the Panama Canal, Mr. Fagan has taken every opportunity to capture birds that came aboard ship, attracted by lights at night, and has also procured them by other methods. The records made, as given in the following list, are of value as they give definite places of occurrence for several tubinarine birds that are little known, and afford data on the distribution of other commoner species. A list of the species taken follows.

Hydrobates tethys (Bonaparte). A female of the Galapagos storm petrel was secured at 10 p. m. on November 17., 1922, at a point about 90 miles south of Iquique, Chile.

Oceanodroma leucorhoa leucorhoa (Vieillot). A specimen collected June 19, 1922, at eight in the evening, came aboard ship 320 miles northeast of Colon on a direct line between the canal and Cape Maysi, Cuba, a point directly south of Jamaica. There seem to be no previous definite records of the species for the Caribbean Sea. The specimen in question has a wing measurement of 153.0 mm. Mr. Fagan states that it seemed weak, and was in poor physical condition when taken.

Oceanodroma melanota (Bonaparte). Two petrels that show the sooty coloration and short heavy bill of this species were secured off the coast of southern Peru. One came aboard at one a. m., September 22, 1922, near Lobos de Afuera, and the other at two a. m., November 24, 1922, five miles off Lobos de Tierra. Both are females.

Oceanodroma markhami (Salvin). Since the report of Mr. Fagan's first specimen of the Markham Petrel (Condor, xxiv, 1922, p. 28) four additional skins have been received, taken as follows: Male, September 16, 1922, ten p. m., opposite Lagarto Head, Peru; male, September 17, 1922, one a. m., 15 miles off Coles Point, Peru (near Molendo); two males, November 17, 1922, ten p. m., 90 miles south of Iquique, Peru. Though one of these birds is somewhat paler than others, the series is quite uniform in coloration as well as in other characters. The five skins now in the collection of the U. S. National Museum indicate a range for this rare species from 35 miles north of Callao, Peru, to below Iquique, Chile.

Oceanodroma hornbyi (Gray). The Hornby Petrel, known for many years from three specimens, has been recorded recently in numbers from the coast of Peru (R. C. Murphy, Auk, xxxix, 1922, pp. 60-65). It is a pleasure to state that through Mr. Fagan's interest three skins of this rare bird have been received at the National Museum, the first to be placed in the collection of that institution. These three were taken as follows: July 20, 1922, eleven twenty p. m., abeam of Lobos de Tierra Island, Peru, three and one-fourth miles offshore (sex not recorded); male, September 22, 1922, one a. m., near Lobos de Afuera Island, Peru; male, November 24, 1922, two a. m., five miles off Lobos de Tierra Island, Peru. It may be stated that during the first week in May, 1920, while en route from Valparaiso to Callao, I kept careful watch for this species but did not record it.

Pelagodroma marina (Latham). A specimen secured June 23, 1922, at 10 p. m., 13 miles off Santa Elena, Ecuador, has a wing measurement of 145.0 mm. It is difficult, with the material at hand, to assign this bird to its proper subspecies.

Puffinus subalaris Ridgway. A female secured December 22, 1922, at five a. m., 180 miles south of Balboa, Panama, is smaller than the average, as the wing is only 175 mm. long. The species is supposed to be confined to the Galapagos Islands.

Pterodroma cookii defilippiana Giglioli and Salvadori. At one thirty a. m. on July 21, 1922, a petrel of this species was secured 35 miles north of Lobos de Tierra Island, Peru. This skin is the first of the race to be received at the National Museum.

Pterodroma phaeopygia (Salvin). A fulmar of this species was secured at one a. m., June 21, 1922, fifteen miles off Cape Santa Elena, Ecuador. Though *A. Estrelata sandwichensis* Ridgway has been placed in the synonymy of *phaeopygia* I note that the bill in the type of *sandwichensis* is distinctly smaller than in the skin from the coast of Ecuador.

Macronectes giganteus (Gmelin). The capture of a male in Arica Harbor, Chile, on August 30, 1922, is described by Mr. Fagan, in a letter, as follows: "We were fishing for Cape pigeons and terns when this large bird settled down on the water near by and gradually edged up toward the ship's stern. Suddenly we hooked a tern which flapped its wings and the fulmar dashed for it, grabbed it by the wing and held it under water. One of our oilers threw a bolt that killed it and the tern immediately flew away unhurt. The dead fulmar floated away and a companion apparently knew something was wrong, as it perched on the dead one's back several times, gave a couple of squawks and flew away. A boatman brought the dead bird aboard. After I had skinned it I cut open its stomach and was surprised to find the head and neck and also the tail of a diver which we see frequently in these southern waters."

Procellaria aequinoctialis Linnaeus. One taken July 16, 1922, at eight thirty p. m., four and one-half miles off Atico, Peru, has the white chin spot divided by a sooty line.

Priocella antarctica (Stephens). A female silvery-gray fulmar was captured on a hook on the afternoon of August 30, 1922, in Arica Harbor, Chile.

Daption capense (Linnaeus). A female Cape pigeon was taken with the preceding on the afternoon of August 30, 1922, in Arica Harbor, Chile.

Pelecanus thagus Molina. An immature Molina pelican was secured on August 26, 1922, nine miles off Lagarto Head, Peru. The species while exceedingly abundant in a limited area has not been represented previously in the collections of the National Museum.

Sula variegata (Tschudi). One came aboard at one a. m. on June 26, 1922, when abeam of Lagarto Head, Peru.

Sterna anaetheta nelsoni Ridgway. A female bridled tern, barely grown, in immature plumage was secured at midnight, September 24, 1922, when abeam of Cape Mala, Panama. The wing, which has not yet quite attained full length, measures 251.0 mm.

Phalaropus fulicarius (Linnaeus). A male red phalarope in full winter plumage came aboard at one a. m., November 21, 1922, ten miles southwest of Chala, Peru, a winter record of interest for this northern bird.

Washington, D. C., March 11, 1923.

NOTES ON SOME BIRDS OBSERVED IN THE VICINITY
OF COLUSA, CALIFORNIA

By JOSEPH GRINNELL

(Contribution from the Museum of Vertebrate Zoology of the University of California)

DURING the period from February 20 to March 6, 1923, the writer, in the company of Major Allan Brooks, was occupied in an ornithological study of a portion of the Sacramento Valley centering at Colusa. Our headquarters were part of the time in Maxwell and part of the time at Judge F. W. Henshaw's houseboat on Butte Creek, about $3\frac{1}{2}$ miles northeast of Colusa. From these points we made excursions over portions of Colusa, Glenn, and Sutter counties, keeping mostly to the lowlands.

The purpose of this contribution is not to present a complete list of the species of birds identified in the region, but merely to put on record some occurrences of land birds, general knowledge of which will amplify or modify previously published conceptions. Opportunity is also taken to give some seemingly new facts, or at least information of corroborative value, in the natural history of some of the species.

Otocoris alpestris merrilli. Dusky Horned Lark. Two races of horned lark were met with, the Ruddy (*Otocoris alpestris rubea*), widely distributed in pairs along country roads and over the "goose grounds"; and the Dusky (*O. a. merrilli*), which we found in flocks in the rice country two to five miles east of Norman, Glenn County. Of the latter race I took six specimens (nos. 43650-55, Mus. Vert. Zool.), February 21 to 27, and Major Brooks obtained others. We were able to distinguish *merrilli* up to 50 yards, by large size combined with dark gray rather than bright reddish color. The behavior of the two races was, at this season, altogether different. *Merrilli* was in flocks of a dozen to twenty, the individuals unattached to any one locality but circulating freely over large territory; and only the winter call-notes were heard. *Rubea* was in solicitous pairs with the interest of each pair centered on some definite section of road or dike-top; the male in song, frequently going aloft to indulge in the characteristic song flight. The examples of *merrilli* dissected proved to have been eating rice grains. Also the birds watched were seen gleaning the rice from the ground in the unharvested fields.

Pica nuttalli. Yellow-billed Magpie. This bird has so generally been cited of late years as a "vanishing race" that we were rather surprised to find it anything but vanishing in the Colusa district. In the territory within seven miles north from the town of Colusa and five miles east, the magpies or their conspicuous nests were in sight most of the time from the roads we traversed. On February 26 I counted as many as 16 of the birds scattered about in and around one farmyard where they were consorting with the pigs and chickens. I asked timidly at the house if I might shoot one of the magpies "for a specimen," and received a most cordial response. "Kill them all—if you can; they steal the eggs and kill the young chickens; they take the feed we put out for the chickens and hogs." One shot, however, put all the birds on their guard; we profited little by lying in wait for them after they once suspected our intent.

Many magpies were foraging in the newly sown grain fields. The stomachs of four of the birds shot there were all filled with sprouting barley; but birds shot elsewhere had been feeding largely on ground beetles. For the most part, the magpies were quiet while foraging; only occasionally would the weakish, un-jay-like chortle be heard.

Not more than two nests were seen in any one tree, and the nest trees were widely scattered. The nests were situated high in sycamores, valley oaks, cottonwoods, or large willows, trees which were leafless at the season of our visit; and so the nests

were visible for long distances. The birds were about the nests in some cases, and building operations were under way. As a rule, however, the breeding cycle was still scarcely begun; and this conclusion from field observations was confirmed by the dissection of the specimens collected.

Toward evening of the day we arrived on Butte Creek, March 1, magpies began to file past over the fields bordering the riparian timber, all going in one general southerly direction. They were traveling in slow-moving scattered companies within half an hour before sunset. I began to count individuals; in one flock there proved to be 78, in another 23, in another 102—and these of a “vanishing” species! The birds proved to be going to a regular roost located in a dense willow patch surrounded by open fields.

Three nights later Major Brooks and I repaired to the vicinity of this magpie roost with the intention of making an accurate census of the birds as they arrived. We concealed ourselves behind the weeds on a levee three hundred yards or so off, in such a position that we could see the birds above the horizon against the bright evening sky. But the magpies proved impossible to count. A flock would arrive with every appearance of being about to settle in the willows; just short of actually alighting the whole lot would swerve off and settle on the open ground or in the top of one of two oak trees that stood apart in a field near-by. Other magpies would arrive and either join those on the ground, below the horizon line, or alight in the oak tree, or else make an independent feint at entering the willows. Presently the whole aggregation would take wing toward the willows only to veer off at the last moment—save for two or three very bold birds which did alight on the taller willow tips; and presently these few would drop down out of sight. Subsequently, after another period of quiescence on the ground and in the oak trees, possibly to see what would happen to the first adventurers, further feints and milling about took place; only now more and more of the birds would disappear in the willows. Meanwhile other parties were arriving from afar. At about “half dusk” no more birds came, and all had vanished into the willows. There had been some noise intermittently, but now all was perfectly quiet. Major Brooks and I could only make an estimate of the total number, based on our several incomplete counts. We agreed on 400 as the minimum number of Yellow-billed Magpies which sought this one roost; and we further believed that this number of birds convened from a wedge-shaped territory to the north not more than six miles in radius from this roost. If this was close to the truth, the nesting population of the territory in question was about ten pairs to the square mile.

Later that evening we tried to get some of the birds by seeking them in their roost, but failed utterly. After being once settled for the night they refused to be routed out. The willows formed a veritable jungle. When a bird was disturbed it would abruptly fly up far enough to clear the willow tips and immediately drop down again into the tangle. Even when a gun was fired, all the birds sat tight.

In their choice of roosting site, in their manner of going to roost, and in their way of staying under cover after having once settled, the magpies probably follow instincts which long racial experience has proved to insure the safest mode of behavior.

When magpies gather together their flight formation is loose; the birds string out, and individuals frequently lag far behind or go off on their own. The silhouette of a bird in flight is unique. The long tail, in side view, gives the effect of a rudder. This is explainable, as Major Brooks pointed out to me, by reason of the special structure of the central pair of tail-feathers. These do not lie flatly side by side in the spread tail, but are rolled down at their edges and superimposed or, in cross-section, concentric. A conspicuous terminal streamer is thus formed, in side view somewhat like that of a Pomarine Jaeger, only, in the case of the latter bird, it is by a twisting of the feather that the effect is accomplished.

On the evening of March 5 our friend Sam Lamme, keeper of Judge Henshaw's houseboat, helped us to “work a shot,” in the phraseology of the old-time market-hunter. We had observed that the magpies were accustomed to alight regularly on a certain oak tree in their line of flight. A mere ghost of a blind was constructed of weeds, and, partially concealed in this, the collector lay perfectly still until a goodly number of the birds had arrived and perched, when ‘pot-shots’ were taken and all the specimens we wanted obtained. The secret of this method was simply to remain rigidly motion-

less until the moment of shooting, and then to keep further quiet until the excited flock circled again into range, showing concern for fallen companions. But "simply" involves a degree of fortitude beyond the endurance of most persons—considering hungry mosquitoes and legs "gone to sleep."

Fresh colors in the brightest males of our specimens proved, by use of Ridgway's Nomenclature (1912), to be as follows. Bill aniline yellow; bare skin below eye lemon chrome, this also tingeing some skin on side of forehead and a bare strip back from gape; iris sepia; feet and claws black. The females were very slightly duller. In some of the brightest-plumaged males the skin of the whole head underneath the feathers was tinged with yellow; and there was a spot of the same color in a concealed fold of the conjunctiva anterior to the pupil of the eye. Whether or not this extension of the yellow was a concomitant of the oncoming breeding season, I do not know.

Of the series of specimens taken, 19 were weighed. Eleven males weighed 162.5 to 188.6 grams, averaging 176.3 grams; eight females weighed 126.0 to 153.2 grams, averaging 142.4 grams. Thus, on the basis of weights, the sexual difference in size is so great that individual variation does not completely bridge the gap between; the largest female is still decidedly smaller than the smallest male.

Agelaius phoeniceus californicus. California Red-winged Blackbird. A considerable series of specimens taken showed this to be the subspecies resident in the Colusa district. Sequestered males were shot from the tule tips, where already, February 24 to March 4, they were posted, part of each day, over their chosen nesting preserves. The females were still altogether in flocks, and most of the males were; or, perhaps, all the males were in flocks a large share of the time. These flocks, numbering up to 2000 (estimated) individuals each, foraged far and wide over the rice country. Specimens dissected had their gullets full of whole rice grains; and we were quite ready to believe what Sam Lamme told us, that the blackbirds inflict vastly more real damage upon the rice industry than do the ducks. The damage done by ducks to the rice has been purposely exaggerated in the effort to get legal approval of shooting them beyond the bag and seasonal limits.

On the Sutter County side of Butte Creek, out in a large dense tract of dry tules, was a Red-winged Blackbird roost. Along toward sundown flock after flock, from various directions, would come in to this roost, until Lamme's estimate of "millions" appealed to us as not much of an exaggeration. From the time the birds began to gather, about an hour before sunset, until dusk began to settle, we would be aware of a swelling volume of sound like the roar of a distant waterfall—the aggregate effect of thousands of blackbird voices. The birds left early in the morning with far less obtrusiveness; they would be gone before we realized it.

I heard one note or sound new to me, given by apparently one single individual in each flock no matter what its size, when passing overhead, in straight-away flight. This sound was a low-pitched rattling whistle, or series of whistles, seemingly synchronous in rhythm with the successive series of wing-beats. As this sound was heard from flocks consisting only of males, as well as from mixed flocks, I inferred that only a male bird produced it. In quality it was in no way similar to any of the regular call-notes or songs of *Agelaius* known to me. I do not find this phenomenon recorded in Dr. Arthur A. Allen's exhaustive study of the eastern red-wing (abstract Proc. Linn. Soc. New York, nos. 24-25, 1914).

Passerculus sandwichensis savanna. Eastern Savannah Sparrow. Two examples, nos. 43704, 43705, both males, from a point three miles east of Norman, Glenn County, taken February 21, 1923; weight in each case, 20.6 grams. These, by their large size, thickish bill, and heavy markings, differ from the prevalent *alaudinus* and coincide with the race summering in southeastern Alaska. This race is so very close to Eastern *savanna* that no one has as yet proposed to call it by a different name, although a sequestered habitat is occupied.

The above two birds were in a field of last year's unharvested rice, along with great numbers of the Western Savannah Sparrow (*P. s. alaudinus*). No. 43705 I shot from among the Westerns by distant selection on the basis of evident larger size. A few other large-sized birds were seen but not taken. No. 43704 was given up by a Sharp-shinned Hawk (*Accipiter velox*). I saw the hawk go after the bird, dashing

this way and that close to the ground among the standing clumps of dry rice, finally disappearing. I approached the spot, but before I got within gun range, the hawk rose. I fired a load of 6's for luck, and saw the sparrow fall while the startled hawk flew off. Marking down the place I retrieved the sparrow. Dissection showed several minute claw punctures in its thoracic region, and the lungs were full of clotted blood. Death had evidently been instantaneous, though the bird before skinning showed not a mark of injury.

Junco hyemalis connectens. Cassiar Junco. One specimen taken, no. 43713, Mus. Vert. Zool.; shot by Major Brooks March 1, 1923, from a scattering flock of Sierra Juncos in riparian growth along Butte Creek, about three miles northeast of Colusa. This is a male showing very well all the characters of the birds included under the above name by Swarth (Univ. Calif. Publ. Zool., vol. 24, 1922, pp. 243-253). The race breeds in the Cassiar district of British Columbia, and the present specimen furnishes the first information we have indicating that the race winters, in part, at least, in California.

Melospiza melodia fisherella. Modoc Song Sparrow. This race of song sparrow proved to be wintering commonly in the Colusa district. There were many individuals in the dead unharvested rice, consorting there with Savannah sparrows. Eight specimens were preserved for the Museum of Vertebrate Zoology, nos. 43722-29, and Major Brooks took five others, all from the vicinity of Norman, Glenn County, and Maxwell and Butte Creek, Colusa County.

Melospiza melodia merrilli. Merrill Song Sparrow. Four specimens taken: No. 43717, in rice field three miles east of Norman, Glenn County, February 22; no. 43718, in tules five miles east of Maxwell, Colusa County, February 23; nos. 43719-20, in riparian tangle along Butte Creek three miles northeast of Colusa, March 1 and 3. Many other dark song sparrows were seen, most of them doubtless belonging under the foregoing name.

In trying to identify the puzzling array of song sparrows collected in the Colusa district, I thought it might be worth while to reexamine the type of *Melospiza fasciata ingersolli* McGregor (described in Bull. Cooper Ornith. Club, I, March 15, 1899, p. 35). This is now in the collection of Dr. J. Dwight, Jr., housed in the American Museum of Natural History, New York City; and through the kindness of Dr. Dwight it is at hand for purposes of comparison.

The bird in question now bears in addition to McGregor's original label, the Dwight collection label on which is written "*Melospiza melodia morphna*." I wish to point out that if this type specimen does properly belong to the Rusty Song Sparrow, then the name for the latter will not be *morphna* [of Oberholser] but *ingersolli*; for McGregor's name has, at the very least, two weeks' priority over Oberholser's (the name *morphna* being proposed as a substitute for *guttata*, preoccupied, in the Auk, xvi, April, 1899, p. 183).

My own present conclusions, however, are that the type of *ingersolli*, a fall bird from Battle Creek, Tehama County, is nearest to *merrilli* of Idaho, just as are the four Colusa district birds above specified, and also a good many other fall and winter taken specimens from California in the Museum of Vertebrate Zoology. The dark brownish tone of coloration and the relatively slender bill distinguish it from most specimens of *M. m. fisherella*; and the somewhat longer wing, less bright or rusty tone of color, and the tendency to blackish shaft-streaking both above and below, separate it from the average of *morphna*.

Melospiza melodia morphna. Rusty Song Sparrow. I refer to this subspecies two specimens: one taken by Major Brooks March 4, and no. 43721, Mus. Vert. Zool., taken by me March 5; both collected close to Butte Creek, three miles northeast of Colusa.

Melospiza melodia maillardi. Modesto Song Sparrow. Found only in the riparian and tule associations along Butte Creek, in Colusa, Sutter, and Butte counties. This was, of course, the only race of song sparrow resident in the region; specimens taken the first week of March showed the beginning of breeding activity—which was not the case with any of the other races. I obtained a series of fourteen specimens, nos. 43730-43, Mus. Vert. Zool.; and Major Brooks took in ten others.

The mean of the entire series shows closer resemblance to typical *heermanni* of the extreme upper (southern) end of the San Joaquin watershed than to any other

named race of song sparrow. Indeed, from a conservative point of view, no special violence to the facts would be done by calling the breeding song sparrows of the entire San Joaquin-Sacramento basin from Fort Tejon to Battle Creek (outside of the Suisun marshes) *heermanni*, just as Ridgway once decided (see McGregor, Bull. Cooper Ornith. Club, 1, 1899, p. 35). There are minor differences, however, which to me seem significant enough to warrant calling the breeding birds from about Stanislaus County north to Shasta County by a different name, *mailliardi* (Grinnell, Univ. Calif. Publ. Zool., vol. 7, 1911, p. 197). As intimated above, *mailliardi* is more nearly similar to *heermanni* than to *maxillaris*. It is identical with *heermanni* in shape of bill and in general size; but it has heavier, blacker streaking, on an average, with paler, less brownish 'ground color' above.

Melospiza lincolni gracilis. Forbush Sparrow. Two specimens (nos. 43744-45) taken at Butte Creek, three miles northeast of Colusa, March 2 and 5. Weights: ♂, 16.4 grams; ♀, 14.5. Other *lincolni*, probably of this race, were seen in the same neighborhood.

Pipilo maculatus oregonus. Oregon Towhee. One specimen taken, no. 43749, Mus. Vert. Zool.; shot by Major Brooks, February 26, 1923, from a thicket of small valley oaks near the Sacramento River seven miles north of Colusa. This is a female and shows throughout the characters of extreme *oregonus*, as compared with all the other races of spotted towhees in California. This is but the second known occurrence of 'good' *oregonus* in California (see Pac. Coast Avif. no. 11, 1915, p. 132). The birds in both cases were doubtless vagrants, representing no general migratory movement.

Telmatodytes palustris plesius. Western Marsh Wren. Found only in the little dry tule patches here and there in the rice country within five miles east of Maxwell. Three specimens taken: Nos. 43760-61, Mus. Vert. Zool., and one in Brooks collection, February 20 and 23. This race of marsh wren is evidently a regular winter visitant in the Sacramento Valley, of the same status as the Modoc Song Sparrow with which we found it invariably associated.

Telmatodytes palustris paludicola. Tule Marsh Wren. Just one example of this race obtained, by Allan Brooks near Butte Creek, March 2 (now in Brooks coll.). This is a female weighing 8.7 grams as against 10.2 grams for a female *plesius*. The bird was undoubtedly a vagrant.

Telmatodytes palustris aestuarinus. Suisun Marsh Wren. The marsh wrens plentiful in the tules of the Butte Creek territory, in eastern Colusa and northwestern Sutter County, were already, March 2 to 6, showing signs of breeding. The five specimens taken belong to the subspecies *aestuarinus* (Swarth, Auk, xxxiv, July, 1917, p. 310), the known breeding range of which is now carried far north through the Sacramento Valley.

Baeolophus inornatus inornatus. Plain Titmouse. One (no. 43762, male) of several specimens of Plain Tit taken near Sites, Colusa County, February 28, has in its tail a 'permanent' bend to right. The bend begins about halfway and becomes so pronounced that the shafts of the feathers within one-quarter inch of their tips form an angle of fully 40° with the axis of the body. As in another case of the sort already recorded (Grinnell, Auk, xxxviii, 1921, p. 130), the bird was doubtless accustomed to roost in a cavity of cramped dimensions; also the bird evidently pivoted always from left to right in settling for the night. I thought I might have found a direction of pivoting characteristic for the species, and so looked over our collection. But of the three examples showing definite 'permanent' tail-bends two are right-hand and one is left-hand. The direction of pivoting is thus more likely a matter of habit on the part of the individual, or perhaps of circumstance concerned with the shape of the tree cavity in relation to entrance.

Berkeley, California, May 12, 1923.

WITH THE BIRD BANDERS

Under the direction of J. Eugene Law, Altadena, California

What Is a Bird Bander?—When a person captures a bird alive, places a numbered aluminum band or ring around its leg, and then liberates it, he becomes a bird bander. When he keeps a careful record of the birds he bands, and makes reports of the same to the Biological Survey at the proper times, he is cooperating in a great movement for the advancement of accurate knowledge of the birds. If, in addition to the foregoing, he writes up the interesting experiences that banding brings to him and, from time to time, sends them to the director of this column for publication, he will help to make this column one of live interest, and will stimulate others to join in the banding work. This column belongs to the banders and they are urged to use it.

The aforesaid bands are thin circlelets just large enough to have stamped on them a number and the abbreviations "Biol. Surv." No two bands bear the same number. They are made in various sizes to accommodate the different birds and the largest size is adjustable. With a bird in hand, one selects a band which, when closed, will easily slip up and down on the tarsal segment of the leg without much room to spare.

The Biological Survey supplies these bands without charge to such persons as have first secured from it a permit to band birds. To receive a permit, one must, of course, have sufficient knowledge of the birds to identify those that he bands. Western students who want to become banders can obtain application blanks from the bird department of any of the western museums, or from the secretary of any of the local bird societies, or from the director of this department. When signed the application should be sent to the latter, and will be forwarded by him to Washington.

No one who enjoys the birds should fail to equip himself with permit and bands. Occasion is sure to arise when birds can be banded, and it is very easy to make the opportunity. Any simple trap will catch the birds. With the banding permit, the Biological Survey sends full directions for making traps and for banding the birds.

A bander easily recognizes the new arrivals in his yard because they are not wearing his bands. In no other way does one get any conception of the procession of birds that visits him. In a city backyard in one winter season the writer banded 65 Gambel Sparrows, 22 House Finches, 6 Song Sparrows, and 1 Mockingbird. There were rarely more than 6 or 8 sparrows in evidence at one time. Some stayed throughout the winter, repeatedly returning to the trap. Others merely registered as they passed through. If one has any time at all for bird study, no use of this time will yield more enjoyment and more profit than operating one or several traps and banding the birds he catches.

Do not let rut inertia deprive you of the opportunities for added pleasure and service that this new activity offers. Most of us can make our own trap. The rest of us can easily get some mechanic to make it. One's equipment is complete with permit, bands, trap, and a pair of pointed pliers, all easy to get. Once over, past the first experiences when the bander is more frightened than is the bird that he is holding in his hand, inoculation becomes complete. He will thereafter lose no opportunity to band birds.

Whether you are a bander or not, be on the lookout for banded birds. The band is white, rests just above the foot as the bird hops about, and is conspicuous against the ground or against any dark object. If you detect one, trap the bird and ascertain its number. Any bander in your community will be eager to help you and thus learn whence the bird has traveled.

Simple Bird Traps.—Any bird cage can be made into an automatic bird trap. If the cage has a door that slides up and down (a drop door) use a false floor designed in accordance with the sketch shown in figure 50, c. This floor consists of 'hardware cloth' $2\frac{1}{2}$ x 5 inches in size, into one end of which is threaded a piece of stiff wire bent

The writer is indebted to Mrs. Elizabeth A. Herrick for the idea of making a trap from a bird cage. In substituting the false floor for the adaptation proposed by her (see Bird Banding Notes, no. 4, 1923, p. 6) one has a simpler trap of equal efficiency.

as indicated in the sketch. A bird entering the cage to reach the food, naturally hops first onto the raised edge of this false floor (fig. 50, a). Under the bird's weight this floor collapses, and this automatically releases the door, and the latter drops and closes the cage (fig. 50 b).

If a person chooses, he can add a partition and another drop door and thus have two compartments, and at a nominal cost of money and energy he can acquire a 'fleet' of the traps. Perhaps the best cage for the purpose is the one commonly used by bird dealers. Its dimensions are 6 x 10 inches, and it is 5 inches high.

This false-floor cage trap can be operated on the ground, on a window ledge or in a tree. In every case a quick catch is stimulated by placing a 3 inch 'stoop' at each door and nowhere else. For ground trapping, set the trap up 3 or 4 inches on bricks or stones so that the latter will form stoops at the doors. When the trap is suspended, a stoop of shake or shingle may be attached.

An automatic 'drop trap' can be made from any screened box or cage which has an open bottom. As outlined in figure 50, d, a piece of hardware cloth, two-thirds the

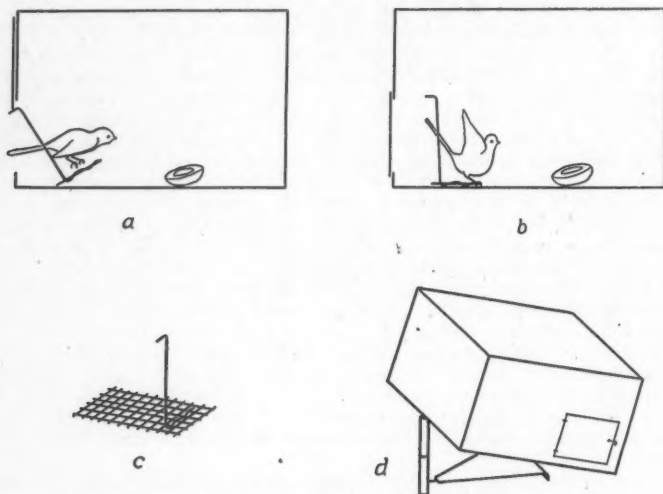


Fig. 50. SIMPLE AND EFFECTIVE DEVICES FOR BIRD TRAPS.

a, b, c. For a false floor cage trap.

d. For a false floor drop trap.

a. A diagrammatic cross-section of the open trap at the instant that the bird is hopping in.

b. The same, one instant later, with the trap sprung.

c. The false floor with the trigger wire 'threaded' into it.

length of the bottom of the box and slightly narrower, is cut to a triangular shape. An inch of the broad end is turned down to a right angle. The opposite, tapering end, in setting the trap, rests on a small nail which has been driven into the lower part (1 inch up) of one of two sticks, each about 2 inches long. These two sticks, ended one above the other, support one end of the cage. A moment's adjustment will fix the set so that the tiniest bird, hopping onto this false floor, will cause the sticks to collapse, and the cage to drop over the bird. Place the bait (food) well back on the false floor and behind it. Some operate a drop trap by using a single supporting stick to which is tied a long string, which the operator pulls at the proper time. The false floor, of course, is not needed when the trap is operated by pulling the string.

Gulls.—Few common bird groups have kept their family secrets better than have the gulls. Specific divisions and plumage sequences are still debatable. Apparent wide individual variation coupled with a several-year period of immaturity prevents positive allocation of many specimens. But since gulls breed in great colonies, many of them accessible, a splendid opportunity to solve some of these problems awaits banders.

This work has been actively begun by Mr. Theed Pearse, of Courtenay, B. C., who writes under date of July 20, 1923: "Last year I banded just over 100 Glaucous-winged Gull nestlings on Mittenach Island in the Gulf of Georgia, about 100 miles north of Vancouver, B. C. These young birds were all banded on the left leg. I hope to get over there this month, when all young birds will be banded on the right leg, my idea being that, in this way, identification on the wing might be assisted and that, taking into account the plumage, it should be possible to tell at a glance during the next two or three years the age of any banded bird. Next year I shall hope to band on the left leg.

"We have at Mittenach a colony of Gulls that, this year, was estimated at over 1500 pairs and the breeding rocks are easily accessible, so that it is a colony where extensive banding operations could be carried out. Unfortunately the birds suffer very much from egg stealing, Indians and others (and crows). Last year, the number of estimated pairs there was 500 and there were no birds of the year flying, so that the birds banded, with perhaps as many more eggs, represented the total output from this number of pairs."

Shall We Have Snakes or Birds.—On July 2, 1923, I killed on suspicion a Gopher Snake (*Pituophis c. catenifer*) four feet long. The birds were making a big fuss over it. Dissection disclosed a House Finch in its gullet and an egg of a Road-runner in its stomach. The House Finch wore band no. 52057 and had been banded as a half-grown nestling on June 23. The snake was killed almost directly under the nest where the bird was raised, but as the nest was under the eaves of a plastered garage, the snake must have caught the bird after it left the nest.

On July 4, a similar fuss led me to a Black Racer (*Coluber lateralis*) which was about seven feet above the ground among the branches of the same tangle that had sheltered the gopher snake. The racer was mouthing a bird, which it had already killed, and which was found to wear band no. 52058. This bird was another baby House Finch from the same nest as no. 52057. The snake had eaten a small lizard prior to catching the bird.

While it seems remarkable that two nestlings from the same nest should be caught by different snakes, and most extraordinary that these two culprits should have been caught red-handed, the incident compels a realization of the menace that the larger snakes are to our bird life.—J. EUGENE LAW, Altadena, California, July 31, 1923.

FROM FIELD AND STUDY

Further Indictment of the Brewer Blackbird.—Referring to the notes on Predatory Brewer Blackbirds by Mr. A. W. Anthony in the May-June, 1923, issue of the Condor, will say that several years ago we had similar experiences with this bird at the State Game Farm near Corvallis, Oregon.

When the pheasant eggs were hatched, it was the custom to put the hen mother in a coop out in the field and the baby pheasants were allowed to go in and out and feed in the open. The Brewer Blackbirds (*Euphagus cyanocephalus*) developed a taste for young pheasants. They were caught red-handed killing the little game birds. They pecked the eyes out and ate the brains. The rest of the body was untouched. I was very much surprised at the time and couldn't account for this blackbird developing such a taste. At the time the young pheasants were fed on maggots. The blackbirds were also attracted by this food and I took for granted that a blackbird had inten-

tionally or in an accidental way pecked the pheasant chicks and had discovered that the tender heads were as tasty as maggots.

There were a number of Brewer Blackbirds about the farm, but as near as I could judge the habit was not common in the flock but only in individual blackbirds. The keeper shot several and killing of the pheasants stopped for that season. It is evident, however, from these and Mr. Anthony's observations, that there is a taint of murder in this yellow-eyed black race.—WILLIAM L. FINLEY, *Jennings Lodge, Oregon, June 6, 1923.*

The 'Following' Habit in Hawks and Owls.—Do certain hawks and owls habitually 'follow' moving objects that pass through their hunting grounds? If so, what is the meaning of the habit and who else has observed it? What species practice it? I have become interested in this subject since learning of the two following instances.

1. A Prairie Owl (*Speotyto cunicularia hypogaea*) made a daily practice of 'pursuing' a bird dog when the dog was turned loose for exercise near the golf links of the Albuquerque Country Club. These links are on open mesa country thinly sprinkled with low plants like snakeweed. When the dog first appeared on the owl's range, he would chase the owl for a short distance. When this was over, the owl would chase him for distances up to 150 yards, flying about five feet behind and above him as the dog hunted. This performance occurred almost daily during May, 1923, between 5:30 and 7:30 A. M. It always appeared to be the same bird, no other being known to inhabit the neighborhood.

2. Several years ago a quail hunter asked me why hawks follow an automobile. I told him I had never seen them do so. He then told me that in a certain locality there was a small hawk which persistently followed his automobile whenever he passed through the locality. He thought the hawk was "waiting for him to cripple a quail."

It seems probable that these instances indicate a habit of following moving objects for such 'game' as they may stir up by reason of their movement.—ALDO LEONARD, *Albuquerque, New Mexico, May 31, 1923.*

A Comment on the Alleged Occurrence of *Mesophoyx intermedia* in North America.—In the Canadian Field-Naturalist for April, 1923, xxxvii, pp. 64-65, Mr. Francis Kermodé details the history of the mounted specimen of the Pluméd Egret, *Mesophoyx intermedia*, in the collection of the Provincial Museum at Victoria, British Columbia, and seeks to establish the authenticity of this specimen as a natural straggler to that province. Before accepting this extraordinary addition to the North American list it will be as well that all the facts bearing on the case are presented, and I regret that Mr. Kermodé has not submitted these himself.

There is no question that the bird is *Mesophoyx intermedia*, an egret of wide distribution in eastern Asia; I believe that it was originally substituted to represent one of the American egrets, and my reasons are as follows: Mr. Kermodé's personal acquaintance with the specimen in question dates from September, 1890, and he submits the evidence of a photograph taken about that time which proves beyond doubt that this identical specimen was in the museum at that time.

In May, 1891, shortly after this photograph was taken by Mr. A. H. Maynard, I made my first visit to Victoria and to the newly established museum. At that time several taxidermist shops in the city had a number of Japanese mounted birds displayed; among these I can vouch for specimens of *Mesophoyx intermedia* in full nuptial plumage. On inquiry I found that these had been procured from a commission house doing business in the city (F. Davidge and Company). A visit to this establishment showed me a large collection of native-made Japanese skins representing a good proportion of the birds of that country, each species wrapped up in bales of ten or a dozen. Among them were several bundles of these Japanese egrets, mostly with full nuptial plumes. At least two of these bundles had been broken up for customers who had purchased the best specimens. Mr. Albert Maynard informed me that these very much compressed skins relaxed readily and could be made up into mounted form without much trouble.

What probably happened was this: Mr. Fannin, then gathering the excellent series of mounted British Columbian birds for the newly established Provincial Museum, had taken one of these Japanese egrets to represent the Snowy Egret, assuming it to be the same species which he had had in his collection in 1879, taken at Burrard Inlet. That he had at that time one of the two species of American egret, or an albino of some other heron, I do not attempt to deny; but knowing his delightfully inconsequent methods as I did, I do not think he would have regarded this substitution as at all un-ethical. I could quote somewhat similar actions, together with extraordinary lapses of memory on the part of my old friend in the matter of ornithological records, were it worth while; and Mr. Kermodé has told me many amusing anecdotes of this nature in the same connection.

The rule of retaining the original collector's label on a specimen in this museum was honored only in the breach, and it would be difficult to find a single specimen not collected by the museum staff, of which the original label had not been destroyed; this resulted in many errors, both as to date and locality. In short, Fannin, although a born nature lover, and a delightfully unassuming and honest personality, was entirely untrammelled by scientific conventions.

Yet another item that negatives the possibility of this 'record' being that of a genuine straggler is that the bird is in full nuptial plumage. As is well known, all or nearly all extra-limital records of the *Herodiones* are of juvenile or immature birds which are given to curious northward migrations in late summer after the breeding season.

Captain Harbell's evidence proves that a white heron, which may have been either of the two American egrets, or only an albino of the resident heron, was killed in May, 1879, at Burrard Inlet; Mr. Fannin's catalogue of the birds in the museum in 1891 gives two specimens as being collected on that date. So before admitting the Plumed Egret to the North American list (in which case it would be by far the most extraordinary straggler that has ever found its way to this continent), it would be as well to take into account the evidence here submitted.—ALLAN BROOKS, *Okanagan Landing, British Columbia, June 25, 1923.*

The White Ibis in California.—The danger frequently has been demonstrated of including in the avifauna of any state species that are based upon visual evidence alone. Nevertheless, it also must be admitted that occasionally there are cases when a species involved is so conspicuous in either form or color, or the ability of the observer is of so high a character, that credence must be given by subsequent workers to records so based. It is the belief of the writer that the following record comes within this category. Accordingly the full details are submitted for the benefit of those interested.

While engaged in working up the sections on geographic distribution for Mr. A. C. Bent's forthcoming *Life Histories of North American Marsh Birds*, a California record of *Guara alba* contained in the files of the Biological Survey attracted my attention. The record, which cites a letter from Mr. Harry S. Swarth, dated October 2, 1914, states that this species was "reported by Hornung as seen in the spring of 1914 at Blythe." A letter to Dr. John Hornung, at the Museum of History, Science, and Art, at Los Angeles, elicited the following reply:

"In answer to your inquiry about *Guara alba* will say that, as far as I remember, it was in March, 1914. I was at the time in Palo Verde, collecting material for the Panama Pacific Exposition, when I noticed the bird on the margin of a shallow lagoon. I was about 30 yards away and with no shell in my gun, and while I tried to get one in the barrel a flock of night herons that had seen me gave the alarm and my bird was lost in the impenetrable jungles of the Colorado. As you probably surmise, I am very familiar with the bird, having had occasion to observe it for months and months in front of my tent on the Acaponeta River (Tepic), and in several localities in Central America."

Palo Verde is in the northeast corner of Imperial County, within a few miles of the Colorado River.—FREDERICK C. LINCOLN, *Biological Survey, Washington, D. C., June 28, 1923.*

Two Interesting Additions to the Known Avifauna of Colorado.—Although previous field work in the vicinity of the Cimarron River, Baca County, Colorado, had proved that region to be a most interesting one, and had resulted in numerous additions to the known avifauna of the state, the writer did not look forward to obtaining specimens and the nests of two new varieties of birds within the short period of six days, between May 28 and June 3, 1923.

Colinus v. texanus. Four specimens taken several miles north of the Oklahoma boundary proved to be identical when compared with birds from Brownsville, Texas, and conformed in every respect with the descriptions of *texanus*. One of these birds was taken as it flushed from a nest containing eight eggs, which establishes a breeding record for this form in Colorado. Of interest in this connection is an example of *texanus* taken at Holly, Prowers County, Colorado, by Mr. Frederick C. Lincoln. This bird appears to be typical in every respect. Other examples taken in the same locality and by the same collector appear to be intermediate between *texanus* and *taylori*. Mr. Lincoln evidently failed to recognize the specimen as *texanus*, since it is identified as *taylori*.

Mitvulus forficatus. Of a more surprising nature was the taking of three specimens of the Scissor-tailed Flycatcher. These birds were among a total of seven observed. Not less interesting was the discovery of a nest under construction, and while it was necessary to leave the region prior to eggs being deposited, this evidence, together with the actions of the birds, appears to warrant the recognition of the species as breeding in Colorado.

These records are not without a degree of importance as furnishing further evidence of the extension of the Lower Sonoran Zone into that portion of Colorado.—ROBERT J. NIEDRACH, *Denver, Colorado, June 14, 1923.*

Notes from Silver City, New Mexico.—Dickcissel (*Spiza americana*). A male was taken in my yard in Silver City on September 25, 1922. It was in company with Western Chipping Sparrows, evidently in migration.

Western Evening Grosbeak (*Hesperiphona vespertina montana*). On November 21, 1922, a flock of 12 of these birds was seen on Ninth street. Almost daily until May 9, 1923, these birds were seen in greater or smaller numbers in various parts of town, a flock of at least 100 being seen on February 27, 1923. I took a specimen from a flock of four, 25 miles northwest of Silver City on November 16, 1919, and these are the only records I have in the past ten years.

Rose-breasted Grosbeak (*Zamelodia ludoviciana*). At Warm Springs Ranch, 25 miles southeast, on May 20, 1923, I saw a full-plumaged male of this species. It was in company with Black-headed Grosbeaks. I was within 20 feet of this bird and the white rump and rose breast were conspicuous. I should have taken it but for over-anxiety. I am thoroughly familiar with the species, having collected it in Ohio.

Saw-whet Owl (*Cryptoglaux acadica acadica*). A beautiful adult female of this species was taken three miles north of town on January 23, 1923.—R. T. KELLOGG, *Silver City, New Mexico, June 9, 1923.*

Corrections as to the Summer Avifauna of Bird Island, Texas.—The editor of The Condor has called to my attention several points in a previous paper (Cahn, Notes on the Summer Avifauna of Bird Island, Texas, and Vicinity, Condor, xxiv, September, 1922) which have been criticized in correspondence. Some of these demand correction, and others call for further statements. Several breeding records, based upon what may be considered 'circumstantial evidence'—old nests no longer occupied, and young birds already out of the nest—are considered inadequate to support the breeding hypothesis. In this the writer is willing in some cases to concur, and these records are withdrawn until such time as future investigation may add more stable evidence of the local breeding of these birds.

To those unfamiliar with the region, as well as to future workers in the field in question, a word is perhaps due: It seems very evident that the conditions along the coast of Texas vary considerably from year to year in so far as bird life is concerned.

This statement is emphasized by the fact that hardly any two authorities completely agree as to the species which occur, or as to their relative abundance. Furthermore, the region is so enormous, that the possibility of finding nests of the many breeding species is purely a matter of chance—or persistence. As an example of the variation that may occur from one year to the next, compare the following:

Pearson (Auk, xxxviii, October, 1921, pp 513-523) touched on Bird Island in 1920, a year almost to the day before I visited it. He reports the Royal Tern on Big Bird Island to the extent of about 3456 nests on May 23, containing eggs. This would represent some 6912 birds. In 1921 I found only about 500 individuals on the island, and the first egg was laid on June 2, the day I left the island. Pearson reports about 892 nests of the Cabot Tern, and numerous nests and eggs of Gull-billed and Caspian terns, as well as many young Caspians. I found neither nests, nor eggs, nor young of either species. Pearson reports a colony of 50 adult White Pelicans on Little Bird Island, together with 18 young and 14 eggs on May 23, 1920. On May 30, 1921, I observed a flock of 7 on Big Bird Island, and another flock of 46 on June 1, and there were neither nests nor eggs nor young at that late date. This comparison is offered to show how greatly conditions may vary from year to year, and not in any way to cast doubt on Mr. Pearson's records, which I accept as absolutely sound. I wish merely to point out the danger of criticizing records when such variations occur.

Laughing Gull. The rarity of four eggs to a nest is pointed out, and the fact that I list 20 per cent of the nests of the species as containing this number. This figure is but an estimate on which three of us agreed; it is only an opinion. Not being an oologist, I did not know that four eggs was considered so rare, or I would have photographed such a nest instead of those containing three eggs, which was the typical number. Reed (North American Birds Eggs, p. 35) lists the species as laying three, four, or five eggs.

Common Tern. The suggestion is made that this should be the Forster Tern, and that there is but one authentic record for the species breeding in Texas. Unfortunately, I did not find any Forster Terns, though I know both species. As to the breeding of the Common Tern, Bent (Life Histories of North American Gulls and Terns, p. 248) records it as breeding at Matagorda (whether this is the town, island, or peninsula, I am unable to say), less than a hundred miles up the coast to the north, while Pemberton (Condor, xxiv, 1922, p. 39) lists it as breeding commonly at Bahía Grande, eight miles west of Point Isabel, some sixty miles to the south of Bird Island.

Mourning Dove. I list this species under the heading of *Zenaidura macroura carolinensis*, and it is suggested that this is the Western Mourning Dove. As I am no longer in Texas, it is impossible for me to verify this suggestion, and I have no A. O. U. data on the subspecies in question.

Black Vulture. I list the species as more common than the Turkey Vulture, and it is suggested that most authorities have found the converse to be true. I regret the discrepancy, but it was not true in my case. This may be due, however, to a couple of individuals 'hanging around' the locality, possibly because of a nest in the vicinity, which were therefore seen and recorded time after time.

Marsh Hawk. Data is asked for on the breeding of the species. Two nests were found, one on May 28 and the other on May 30, both on the mainland and nearly opposite Little Bird Island. The former contained three half-feathered young, the latter two rotten eggs.

Ruby-throated Hummingbird. When I wrote the sentence, "No breeding evidence at hand, though the species is known to breed near Corpus," I had before me a statement to that effect. That is what caused me to emphasize the fact that I could not substantiate the previous record. As all my Texas literature is now inaccessible to me, I am unable to give the reference at this time.

Phoebe. I list this as a breeding species based on two old nests found on an uninhabited shack on Padre. I admit the bare possibility that these nests might belong to another species, and therefore withdraw the breeding record of the species.

Cowbird. Both the Cowbird and the Dwarf Cowbird occur in the region, but the Dwarf is more common than its larger relative, not less common as in my paper.

Blue Jay. It is suggested that the species occurring in the region is *florincola*,

the Florida form, instead of the common form, *cristata*. As this may be true, and as I am unable to verify the suggestion, I withdraw the record of *Cyanocitta cristata cristata* and substitute for it *Cyanocitta cristata* subsp.?

Crow. It is suggested that the crow of the region is the Southern Crow, *Corvus brachyrhynchos paulus*, of Howell, 1913. This may be true, but as it has not as yet been passed on by the A. O. U. Committee, I do not feel at liberty to anticipate the action of the Committee, and therefore follow the lead of Pearson (*op. cit.*, p. 521). It is hard enough to keep up with the changes of modern zoological nomenclature without attempting to jump ahead of it!

Cardinal. This is an error. It should read the Gray-tailed Cardinal, *Cardinalis cardinalis canicaudus*, instead of the common Cardinal, subspecies *cardinalis*.

Painted Bunting. It is suggested that this should be the Texas Painted Bunting, a subspecies, a suggestion that I am unable to verify.

Texas Chickadee. I based the breeding record on the presence of young birds already out of the nest. As there is a bare possibility that these babies *might* not have hatched on the island, I withdraw the breeding record.

In conclusion, let me say that until a mass of careful, up-to-date work is done on the avifauna of Texas, it is almost useless to attempt to compare records. The field is still practically untouched, and the lines of overlapping of eastern and western, northern and southern varieties are still undrawn with any degree of certainty. There is a great piece of work to be done in Texas, and it is to be hoped that local ornithologists (of whom there are several) may, in the not too far distant future, give us some really constructive work on Texas ornithology.—ALVIN R. CAHN, *Oconomowoc, Wisconsin*, June 25, 1923.

Green-tailed Towhee in the Blue Mountains of Washington.—On July 19, 1923, while working south of the Wenatchee Ranger Station (Asotin County), elevation 5500 feet, my attention was called to a bird by a song which did not fit into the usual program of my territory. At first, it was thought to be the song of the Slate-colored Fox Sparrow; yet it had in it the quality of the Western Lark Sparrow. The notes were followed across the upper canyon of Wenatchee Creek, only to have them cease when the desired locality was reached. The following morning the search was renewed and a male Green-tailed Towhee (*Oreospiza chlorura*) was taken. The bird was in full breeding condition, but in somewhat worn plumage.

In all, three singing males of this species were heard in this canyon, which was one of many similar ones tributary to the Grande Ronde River.—WM. T. SHAW, *Pullman, Washington*, July 24, 1923.

EDITORIAL NOTES AND NEWS

The phenomenon of albinism among birds is now so very well known that we doubt the value of printing further records of albinos. Indeed we do not invite further contributions to this magazine of such records, *unless* there be accompanying observations of some significance, such as upon the behavior of other birds toward said aberrant individuals, or upon the results of their breeding. We might suggest further that such albinos as are met with had much better be left alive than collected. The intrinsic value of an albino blackbird, for instance, is much greater for potential information alive than when turned into a study-skin. Normally colored birds make far more instructive specimens from nearly every point of view.

The August, 1923, number of the National Geographic Magazine contains a noteworthy contribution from William L. Finley, entitled "Hunting Birds with a Camera". The best 36, we judge, of all the pictures taken by Mr. and Mrs. Finley, either themselves alone or in collaboration with Mr. H. T. Bohlman, are here reproduced in admirable style. The text gives briefly some of the circumstances in the interesting history of these remarkable pictures.

We marvel at the productive activity displayed by the ornithologists of Australia. Book after book comes out, of superior technical merit or else of good popular character. The Emu holds, perhaps, foremost rank among the ornithological

magazines of the world for the publication of new life-history materials, and its photographic illustrations are seldom excelled. Now we have announcement of a projected work of superlative magnitude, to be entitled "Cayley's Birds of Australia, their Habits, Nests and Eggs". The publishers are Angus and Robertson, of Sydney. The work will be illustrated by Mr. Neville W. Cayley, a talented artist; and the text will be furnished by many authorities in the different portions of the field covered, among whom are A. J. Campbell, A. G. Campbell, C. L. Barrett (editor), Edwin Ashby, W. B. Alexander, and S. A. White. Apparently, this will be a thorough-going, joint product bringing the subject of Australian ornithology right down to date in practically complete form.

Mr. H. Hedley Mitchell, of the Normal School at Regina, Saskatchewan, has compiled a very creditable list of the birds of that Province. The Provincial Government plans to publish this shortly in a form to be useful to the public in general and to school people in particular. The appearance of this contribution, which we have examined in manuscript, will, we feel sure mark a distinct advance in the development of the ornithology of the central Canadian provinces.

Dr. Casey A. Wood is spending some months in the Fiji Islands where he is making observations upon the bird-life, and securing drawings and specimens of the rarer species.

We observe with interest a note appended to a recent publication of the United States Department of Agriculture. After the usual announcement of the place of sale and the cost, there is added, "purchaser agrees not to re-sell or distribute this copy for profit". Presumably this is an outcome of a growing feeling of resentment on the part of the interested public at the way in which certain important government publications have at once become "out of print", to re-appear in the hands of the book dealers at greatly inflated prices. Whether the "profiteers" aimed at will feel themselves bound by any such "agreement" is a question, but at any rate it is a satisfaction to know that this particular problem is recognized by those in authority and that steps are being taken towards a solution. The Federal Government is performing an extremely useful function in supplying authoritative information, on ornithological subjects as well as on many others, at minimum cost, and it is a service that we believe receives general and deep appreciation. If some method can be devised

whereby speculators can be discouraged from grasping the opportunity so easy to be taken advantage of, the general public will benefit.

Among Cooper Club members who participated in the programs of the Pacific Division of the American Association for the Advancement of Science in Los Angeles, September 17 to 19, were the following: Mr. Donald R. Dickey, on the birds of Laysan Island (illustrated by motion pictures); Dr. Walter P. Taylor, on the present status of the Band-tailed Pigeon, and on the conservation of upland game birds in Washington; Mr. E. C. Jaeger, on the importance of correct geographical place names; Dr. Joseph Grinnell, on the bird-life of Death Valley, and on geography and evolution; Dr. Barton W. Evermann, on the sea environment of natural resources contrasted with that on the land in relation to conservation; Mr. J. Eugene Law, on the geologic history of the Fox Sparrows; Dr. David Starr Jordan, on barriers in relation to species-forming.

PUBLICATIONS REVIEWED

GRISCOM ON *DENDRAGAPUS**.—Of the four birds described in this paper, one is a supposedly new form of sooty grouse, *Dendragapus obscurus munroi*, from the Queen Charlotte Islands, British Columbia. The main point of general interest in this description is the claim that there are in the genus *Dendragapus* two molts each year. Aside from the regular annual molt, Griscom asserts and re-asserts that there is in the male a "prenuptial" molt, which involves the plumage of "head, neck, chin and throat, and to a slight extent the upper back," and that in the female it is even more extensive. This molt, it is stated, is accomplished in the male in May or early June. In the female of *munroi* it takes place "anywhere between early April and the middle of June."

The material used as the basis for the study consisted of twenty-nine skins of "*munroi*," from the Queen Charlotte Islands, and a total of just fifteen skins of "*fuliginosus*" from elsewhere. Griscom proceeds at the outset to preach the exercise of care in systematic work in determining the effects of molt and wear. In other words, he 'talks down' to other systematic workers, more particularly to Mr. Harry

*Descriptions of Apparently New Birds from North America and the West Indies, by Ludlow Griscom: American Museum Novitates, Number 71, April 30, 1923, pp. 1-8.

S. Swarth (describer of *Dendragapus obscurus sitkensis*, which is here considered unworthy of mention in the comparison), as if he were instructing an Audubon class! Space is taken up with the A B C of systematic ornithology, and this in a paper in a supposedly technical series, none other than the "Novitates" series of the American Museum of Natural History. Editorial oversight seems to have been altogether lacking in this case.

It is implied very plainly that Mr. Swarth committed a blunder in naming *sitkensis*, by reason of his failure to recognize the existence of a prenuptial molt. Now, I have personally studied all of the material worked over by Mr. Swarth and listed by him in his paper describing *sitkensis*; this material, be it noted, is considerably greater in amount than that listed as the basis of Griscom's studies. Some dates for adult specimens are: April 6, 13, 22, 23, 24, 26, 27, 28, 29; May 3, 4, 11, 24, 28; June 2, 19. Briefly, and to the point, I find no evidence whatsoever of any prenuptial molt! Upon scrutinizing Griscom's paper I fail to find in it any definite evidence given for predating such a molt. He speaks only of specimens in plumage just before or just following said "molt"!

I believe Griscom could have avoided the commission of error, or at least better assured himself of the facts in the case, if he had simply taken the pains to assemble more material; this he could have done by seeking help, which would have been freely granted, from other institutions. The modern method precludes reliance, where important critical points are involved, upon the material solely in one museum.

Since writing the foregoing I have talked with Major Allan Brooks, who has had an enviably long field experience with northwestern birds. He states it as his belief that there is no such thing as a prenuptial molt in *Dendragapus*, save for the usual sporadic replacement of feathers at any time in the year when feathers have been lost through violence. He says, furthermore, that he believes the name *munroi* to be a pure synonym of *sitkensis*—in which belief I concur.

Major Brooks permits me to quote some interesting comments of his in this regard. "J. H. Fleming described the subspecies in manuscript about 1915, but considerably refrained from publishing his description, as I asked him to hold it, first, until Swarth, who already had noted the

difference, had decided what he was going to do with it; and second, until birds from the mainland had been procured. Fleming worked from some twelve skins borrowed from my collection and taken by C. deB. Green. I have had in my collection some 45 specimens of *Dendragapus* from the Queen Charlotte Islands, and my differentiation of them would be on exactly the same character as Swarth bases his name *sitkensis*, namely, the very red coloration of the female. This series shows considerable variation (individual) in both male and female; but the female is always notably red. The male is not conspicuously darker, if darker at all, than mainland males."

It is too bad to have to say un-nice things; but, in the interest of what, if pursued seriously and discerningly, is a perfectly good science, some one has to sacrifice himself once in a while—and I decided to assume the unpleasant function of adverse critic in this case.—J. GRINNELL, Berkeley, California, June 26, 1923.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

MAY.—The regular meeting of the Cooper Ornithological Club, Northern Division, was held at the California Museum of Vertebrate Zoology on May 24, 1923, at 8:00 P. M. President Cooper was in the chair and the following members were present: Miss Flinn, Mesdames Allen, Bogle, Cantelow, Grinnell, Kelly, Mead, Mexia, Nienburg; Messrs. Clabaugh, Cantelow, Cooper, Dixon, Evermann, Gignoux, Grinnell, Las-treto, McLeod, Storer, and Swarth; visitors were Mrs. Hull and Mr. Simpson.

March minutes were read and approved. As the April meeting took the form of a field trip to Golden Gate Park, followed by a lecture by Dr. H. C. Bryant, given at the California Academy of Sciences, no business meeting was held at that time. Minutes of the Southern Division meeting in March were also read. Three applications were presented: Winthrop Sprague Brooks, Boston Society of Natural History, 234 Berkeley St., Boston, Mass., by Joseph Dixon; Mrs. Effie C. Cohn, Key Route Inn, Oakland, Calif., by Mr. Claude Gignoux; and Mr. Charles Dickens, Key Route Inn, Oakland, also by Mr. Claude Gignoux.

Arrangements were made for a gathering of those interested to be held at the museum on Monday, May 28, at 8:00 P. M., to

meet Mrs. Bruce Horsfall and to see her Oregon bird slides.

Business completed, Mr. Joseph Dixon opened a program, which was participated in by most of those present, on the subject, *Unusual Birds' Nests I have Found*. Adjourned.—AMELIA S. ALLEN, *Secretary*.

JUNE.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held in the California Museum of Vertebrate Zoology, Berkeley, on the evening of June 28, 1923, at 8 o'clock. President Cooper was in the chair with the following members and guests in attendance: Miss Thomson, Mesdames Bamford, Kelly, Kibbe, Schlesinger, Van Gaasbeek; Messrs. Allan Brooks, Clabaugh, Joseph Dixon, Evermann, Joseph Grinnell, Kibbe, Rankin, and Storer; visitors included Misses Chattin and Peacock, Mesdames Blatch, Davis, Hamilton, Wangeman, Wood, and Thomson.

Minutes of the May meeting of the Northern Division were read and approved. Mr. James H. Ferriss, West Park, Joliet, Illinois, was proposed for membership by Mr. H. S. Swarth.

Mr. A. S. Kibbe presented the program of the evening, which consisted of a showing of stereoscopic photographs of European birds and their nests. These pictures, the work of Mr. A. Burdet, are issued by the *Nederlandsche Vereeniging tot Bescherming van Vogels* (Holland Society for the Protection of Birds), and had been sent by Mr. H. van Straaten of Velp, Holland. The pictures were first projected on the screen and commented upon by Mr. Kibbe; then they were examined in the stereoscope. Adjourned.—TRACY I. STORER, *Secretary pro tem*.

JULY.—The regular meeting of the Northern Division, Cooper Ornithological Club, was held at the Museum of Vertebrate Zoology, Berkeley, Thursday, July 26, at 8 P. M. President Cooper was in the chair, with attendance as follows: Members, Mrs. Bogle, Miss Randolph, and Miss Rush; Messrs. Brooks, C. A. Bryant, Bunker, Carriker, Clabaugh, Dixon, Evermann, Gignoux, La Jeunesse, McKibben, Pemberton, Swarth, and Wheeler; visitors, Mrs. Bunker, Mrs. Wheeler, Miss Rush, and Mr. Shields.

Minutes of the June meeting of the Northern Division were read and approved, and April and May minutes of the Southern Division were read.

A communication from the secretary of the Southern Division was read, which dealt with the meeting in September at Pasadena of the Pacific Division of the American Association for the Advancement of Science. After some discussion the suggestion was made by Dr. Evermann (to be entered in the minutes, though not as a formal motion), that any member of the Northern Division who attended the meeting should be requested to participate in the proposed symposium on the conservation of marine life, and to contribute a paper on the conservation of marine birds.

Mr. Joseph Dixon then gave a talk, illustrated with slides, on the nesting of the Wood Duck in California. This is the first time that the breeding habits of the Wood Duck, as occurring in California, have been reported upon with any detail, and Mr. Dixon's observations and photographs portrayed facts that have been imperfectly understood, or else entirely unknown, in any part of the bird's range. Adjourned.—H. S. SWARTH, *Secretary pro tem*.

SOUTHERN DIVISION

MARCH.—The regular monthly meeting of the Southern Division of the Cooper Ornithological Club was held at the Southwest Museum, Thursday, March 22, 1923, at 8 P. M.

Those present were: Misses Burnell, Kennedy, Miller, Potter, Pratt; Mesdames Anthony, Bicknell, Ellis, Law, Schneider; Messrs. Bishop, Appleton, Cantwell, Chambers, Comstock, Law, Little, Pierce, Rich, Storer, Stormont, Wyman. Visitors were: Mesdames Bishop, Chambers, Martz, Mitchell, Stormont, Wyman, and Dr. Hallo.

Business was deferred until after a very interesting talk on woodpeckers by Mr. Tracy I. Storer of the Museum of Vertebrate Zoology, Berkeley. Mr. Storer illustrated his talk with lantern slides.

A general discussion took place after the main talk. Mr. Wyman exhibited a Nuttall Woodpecker, completely albino with the exception of the red patch on the back of the head. The bird was discovered in Griffith Park by some women bird observers who reported it to Mr. Wyman.

Minutes of the February meeting were read and approved. February minutes of the Northern Division were also read.

New names proposed for membership were as follows: William A. Bourne, Box

27, Yosemite, Calif., by H. C. Bryant; Miss M. Pamela Clough, 844 Arlington Road, Berkeley, by Mrs. J. T. Allen; Hoyes Lloyd, 406 Queen St., Ottawa, Canada, by J. A. Munro; Miss Susan H. Mackay, Cloyne Court, Berkeley, Calif., by Mrs. Edwin B. Mead; Miss Marion J. Pellew, 1637 Massachusetts Ave., Washington, D. C., by W. Lee Chambers; Granville E. Thomas, 1533 Spruce St., Berkeley, Calif. by Paul F. Bunker.

Two letters were read from the secretary of the Pacific Division, American Association for the Advancement of Science, advising of the big meeting to be held in Los Angeles on September 17, 18, and 19. Due to the late hour no action was taken. Mr. Wyman made a motion, seconded by Dr. Rich, that the matter be laid on the table until next meeting; this was agreeable to all. Adjourned.—LUTHER LITTLE, *Secretary*.

APRIL.—The April meeting of the Southern Division of the Cooper Ornithological Club was held at the Southwest Museum, Thursday evening, April 26, 1923, with President Pierce in the chair. Those present were Misses Miller and Potter; Mesdames Bicknell, Ellis, Law, Schneider; Messrs. Appleton, Barnes, Bishop, Cantwell, Hanaford, Law, Rich, Wyman; visitors, Mesdames Bishop and Wyman, and Miss Sholes.

Mr. Law gave a very interesting talk on bird banding. He exhibited some traps of his own design and explained their operation.

Minutes of the March meeting of both divisions were read, and those of the Southern Division approved.

A letter was read from Mr. Sargeant, Secretary of the Pacific Division of the American Association for the Advancement of Science, requesting the Cooper Club to submit its program for the September meeting before May 5. Mr. Law made a motion, seconded by Mr. Wyman and duly carried, that the chairman appoint a committee of three, to include Dr. Loye Miller (chairman), Mr. Law, and Mr. Wyman, such committee to have charge of arrangements for participation in the September meeting.

Mr. Law made a motion, seconded by Dr. Bishop, that the following resolution be adopted by the Cooper Club.

Resolved, That in the opinion of the Southern Division of the Cooper Ornithological Club the banding of wild birds by means of trapping furnishes a fertile field for the advancement of ornithological knowledge; and

Resolved, That, as such, the banding of birds should be limited to such persons as have shown sufficient interest in bird study to familiarize themselves with their local birds and whose record is such that they may reasonably be expected to render reliable reports of their operations and to trap and handle the birds with a minimum of injury and destruction to the birds themselves; and be it further

Resolved, That this Club is opposed to the promotion of bird banding as a popular movement for the delectation of the dilettante and the faddist irrespective of any previous knowledge or interest in birds.

General discussion of field experiences followed. Several interesting notes were presented and some specimens exhibited. Adjourned.—LUTHER LITTLE, *Secretary*.

MAY.—The regular monthly meeting of the Southern Division of the Cooper Ornithological Club was held at the homes of Messrs. Law and Chambers on Sunday afternoon, May 27, 1923, at 2:30 P. M. with President Pierce in the chair. Over fifty were present to enjoy the meeting which was held under some large oak trees. Refreshments were served.

April minutes were read and approved. New names presented for membership were: Mrs. Lawrence J. Webster, Holderness, New Hampshire, by W. Lee Chambers; Miss Esther Margaret Hartung, 124 Mill St., Grass Valley, California, by J. Grinnell; Frank La Grange Farley, Camerose, Alberta, Canada, by Aretas A. Saunders; Jack W. Sherwood, Salinas, California, by O. P. Silliman; Charles Piper Smith, 354 South Tenth Street, San Jose, California, by H. C. Bryant.

Dr. Miller, Chairman of the Program Committee, reported he would be glad to have papers from any one to be read at the September meeting of the Pacific Division of the American Association for the Advancement of Science. The final program will be printed August 15; therefore a quick response is necessary.

Dr. Esterly made a motion that as members of the Western Society of Naturalists, Ecological Society, Mammalogical Society, and the Cooper Ornithological Club are more or less interested in each other's activities, a joint meeting be held. Motion seconded by Dr. Miller. This motion carried.

General discussion followed in which various members related their ornithological experiences. Meeting adjourned after a most enjoyable time.—LUTHER LITTLE, *Secretary*.



For Sale, Exchange and Want Column.—Any Cooper Club member is entitled to one advertising notice in each issue free. Notices of over ten lines will be charged for at the rate of 15 cents per line. For this department, address W. LEE CHAMBERS, Drawer 123, Eagle Rock, California.

FOR SALE—Nuttall Bulletin, vols. 3 and 4, bound in one cover; Widmann, Birds of Missouri; Coues, Birds of the Northwest; Forbush, Useful Birds and their Protection. —TRACY I. STOREY, University Farm, Davis, Calif.

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